

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P367390

Luminaire Tested: **MSA-SA2B-830-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367390  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-830-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8026 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

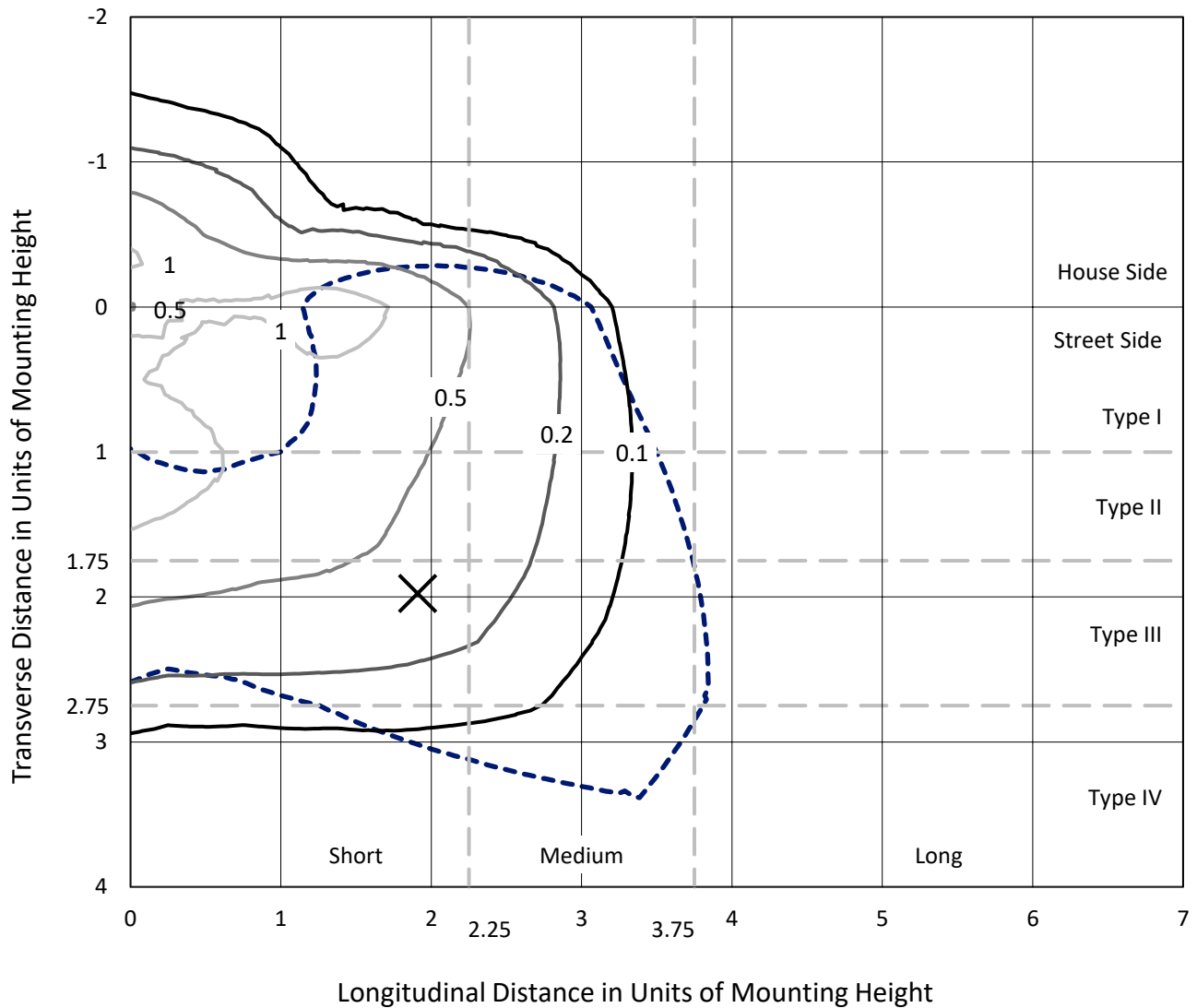
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

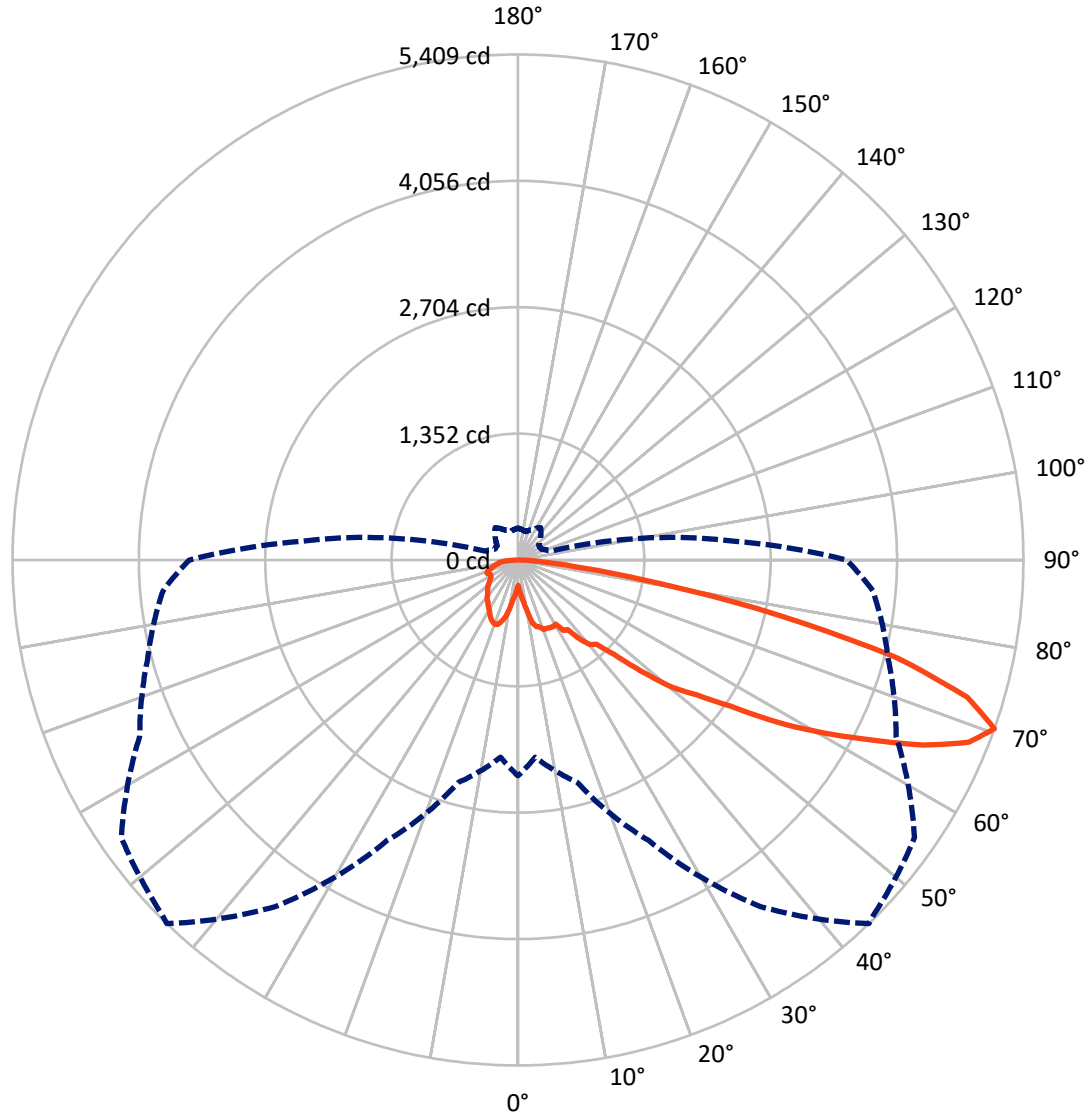
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1770.8	0.0	1770.8
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	6255.1	0.0	6255.1
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	8026.0	0.0	8026.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.8	0.5
10°-20°	197.0	2.5
20°-30°	368.1	4.6
30°-40°	590.8	7.4
40°-50°	997.3	12.4
50°-60°	1777.1	22.1
60°-70°	2430.9	30.3
70°-80°	1429.5	17.8
80°-90°	192.5	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	8026.0	100.0
0°-180°	8026.0	100.0

**Coefficient of Utilization**



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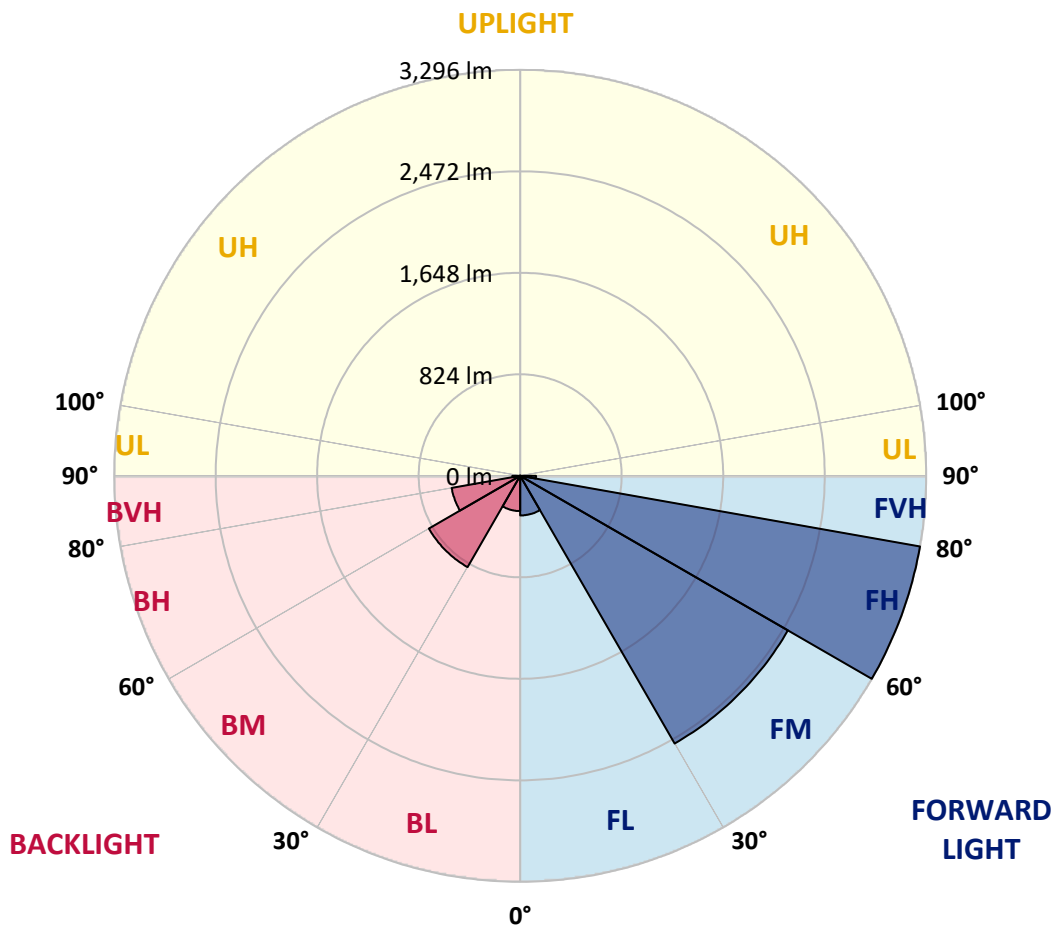
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	321.6	4.0			
FM (30°-60°)	2509.5	31.3			
FH (60°-80°)	3295.7	41.1			G2/5000
FVH (80°-90°)	128.3	1.6			G2/225
BL (0°-30°)	286.2	3.6	B1/500		
BM (30°-60°)	855.8	10.7	B1/1000		
BH (60°-80°)	564.7	7.0	B2/1000		G2/1000
BVH (80°-90°)	64.2	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8
2.5°	331.1	324.5	308.7	314.0	320.5	323.2	322.5	321.8	311.6	308.0	326.1
5°	449.9	435.4	423.9	419.3	404.1	392.3	385.0	404.1	401.2	406.1	418.6
7.5°	561.8	552.5	526.5	517.3	486.4	466.0	463.7	478.8	482.8	474.9	496.3
10°	633.8	618.0	612.8	590.7	569.3	566.0	564.1	557.1	547.6	546.9	527.9
12.5°	689.8	698.0	702.3	676.9	677.6	689.4	683.2	655.2	639.1	610.8	613.1
15°	790.1	802.0	768.1	752.0	721.0	738.8	736.5	713.1	710.8	692.4	671.0
17.5°	877.7	882.9	826.3	789.5	779.0	753.3	760.2	760.9	730.6	763.5	744.4
20°	884.9	903.7	838.5	765.1	796.7	793.4	794.4	787.8	748.0	802.3	795.1
22.5°	920.5	891.8	833.3	779.6	787.8	792.8	797.4	789.5	787.2	817.5	839.5
25°	913.9	904.7	845.4	800.0	801.0	802.0	804.3	828.0	825.4	866.5	878.0
27.5°	975.4	961.3	849.0	837.9	812.2	806.6	790.8	840.2	878.7	877.7	941.2
30°	1092.6	1078.1	933.3	900.7	854.3	797.1	827.3	893.1	923.4	933.6	1014.3
32.5°	1275.5	1299.2	1099.2	967.8	910.3	897.8	894.5	887.9	962.9	1013.3	1086.7
35°	1538.2	1519.4	1294.6	1111.7	969.2	915.5	922.8	962.9	1052.1	1084.7	1152.5
37.5°	1838.9	1800.1	1545.1	1274.6	1139.0	1071.8	1047.8	1086.7	1106.4	1132.1	1270.6
40°	2144.7	2049.9	1790.9	1488.8	1241.0	1190.3	1169.3	1121.5	1167.9	1219.9	1396.0
42.5°	2439.9	2366.5	2058.4	1744.5	1412.8	1232.1	1220.6	1173.9	1317.7	1372.6	1577.0
45°	2749.2	2579.1	2332.6	2033.1	1663.9	1437.1	1420.0	1336.1	1520.4	1634.9	1832.4
47.5°	2957.2	2799.6	2583.7	2267.4	1874.2	1780.0	1747.5	1604.0	1771.2	1919.9	2226.9
50°	3154.0	2991.7	2765.0	2523.8	2254.9	2146.6	2077.2	1838.3	2083.5	2325.7	2732.8
52.5°	3435.7	3290.6	2975.6	2782.1	2664.0	2397.7	2346.1	2214.8	2448.7	2775.5	3285.6
55°	3736.8	3539.0	3253.7	3146.4	3098.7	2757.8	2715.6	2632.0	2935.1	3235.9	3823.0
57.5°	3869.8	3663.4	3506.1	3441.9	3438.0	3281.0	3232.6	3174.4	3432.4	3630.8	4328.8
60°	3975.4	3753.9	3691.1	3726.9	3857.2	3753.9	3691.1	3639.7	3837.2	4021.1	4741.5
62.5°	3956.0	3733.8	3766.1	3875.3	4208.1	4238.3	4190.0	4065.6	4238.3	4341.0	4978.1
65°	3642.7	3437.3	3625.2	3884.6	4534.2	4776.1	4773.4	4448.0	4507.9	4507.9	4953.1
67.5°	3093.8	2881.2	3188.9	3803.3	4759.6	5202.2	5202.9	4853.4	4532.5	4491.1	4566.1
70°	2310.2	2117.7	2463.6	3312.3	4526.9	5408.6	5378.6	5180.5	4464.7	4102.4	3814.1
72.5°	1379.9	1255.5	1573.7	2411.2	3861.5	5029.1	5108.8	4803.7	4087.3	3411.7	2726.5
75°	626.6	572.6	739.5	1385.1	2756.8	4194.9	4281.4	4054.0	3246.5	2453.7	1575.7
77.5°	268.2	253.7	322.8	614.4	1520.1	2868.7	3046.0	2897.3	2199.6	1425.9	697.0
80°	172.4	163.2	198.4	295.5	705.9	1550.0	1702.7	1647.1	1120.5	554.5	245.5
82.5°	103.0	100.0	132.6	185.6	385.0	682.2	768.8	789.2	465.3	248.8	140.5
85°	56.3	56.9	72.7	112.5	231.0	265.6	284.3	309.3	219.2	144.1	68.1
87.5°	18.8	21.7	29.3	45.7	82.3	75.0	75.4	87.5	92.5	59.9	21.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8
2.5°	329.1	323.2	308.0	309.0	314.6	315.9	317.6	308.0	306.1	324.2	325.8
5°	420.6	401.2	392.3	389.3	380.8	377.8	393.6	400.8	408.1	422.2	429.1
7.5°	494.0	472.2	456.1	441.3	428.8	421.6	448.2	468.6	481.1	510.1	523.3
10°	527.5	508.8	502.8	491.0	500.5	522.3	527.2	527.9	555.5	554.8	560.4
12.5°	594.3	582.2	562.7	567.0	592.0	614.4	608.2	617.7	627.6	651.3	640.4
15°	655.2	651.9	633.8	636.8	641.7	669.7	673.3	682.9	698.0	716.8	703.9
17.5°	730.2	728.9	684.8	680.9	692.4	719.7	711.2	694.4	744.4	764.5	759.2
20°	781.3	771.4	714.8	698.0	727.3	730.9	721.0	694.4	737.8	781.6	793.4
22.5°	823.7	812.2	753.9	721.0	715.1	716.8	716.8	711.8	733.2	769.1	768.8
25°	857.9	868.8	794.7	763.2	731.6	692.1	687.1	691.4	703.6	772.7	770.4
27.5°	943.8	913.9	808.6	784.9	720.0	657.8	671.3	677.9	681.9	757.6	770.1
30°	999.8	1009.0	857.9	797.7	703.3	619.7	624.3	643.4	666.4	755.9	759.5
32.5°	1075.1	1055.4	934.9	776.3	658.5	596.6	588.1	613.7	648.0	729.3	739.1
35°	1145.2	1168.6	967.5	772.4	627.2	562.1	571.3	580.2	615.7	699.6	711.2
37.5°	1309.8	1256.5	1059.0	753.3	601.2	544.6	534.8	548.3	578.5	643.4	670.0
40°	1434.8	1438.1	1078.8	729.3	551.6	519.6	498.6	512.1	524.9	576.6	588.1
42.5°	1669.5	1597.7	1127.1	676.6	520.3	482.1	470.3	476.2	478.2	499.9	519.0
45°	1967.9	1799.8	1146.2	605.9	479.2	466.6	442.6	439.7	428.8	431.8	448.5
47.5°	2381.0	2115.1	1132.4	530.5	442.6	446.6	412.0	398.5	383.4	387.0	402.8
50°	2915.1	2517.9	1131.4	466.6	417.6	420.2	391.9	367.6	352.5	360.0	373.8
52.5°	3514.3	2922.0	1136.0	422.9	390.3	389.0	378.8	349.2	337.0	344.9	360.7
55°	4087.6	3269.5	1170.2	395.2	362.0	364.3	368.2	343.2	329.7	337.0	353.4
57.5°	4586.5	3544.0	1157.4	365.9	335.7	346.2	356.7	335.0	324.8	335.3	351.8
60°	4935.3	3671.3	1056.0	338.0	316.3	330.7	351.1	334.0	332.7	355.4	375.2
62.5°	5062.7	3624.3	858.6	315.9	304.7	328.8	364.0	355.7	357.1	385.0	412.3
65°	4876.8	3376.8	640.4	301.8	295.9	338.3	393.6	368.6	350.5	373.5	398.5
67.5°	4347.9	2936.8	468.0	289.6	285.6	353.4	420.9	367.3	333.7	357.1	377.5
70°	3517.6	2318.1	362.3	274.1	272.2	343.2	423.5	357.4	315.6	330.7	342.3
72.5°	2410.2	1587.2	300.1	259.3	248.8	304.1	402.1	335.3	293.9	302.8	312.3
75°	1347.0	890.8	252.4	240.9	217.9	270.8	377.1	322.2	277.8	280.4	293.5
77.5°	604.5	385.4	214.2	216.5	189.9	239.6	344.6	301.1	253.1	247.1	260.3
80°	228.7	187.9	173.8	183.0	159.6	207.7	310.7	282.0	227.1	219.5	227.1
82.5°	132.6	113.9	129.0	140.8	126.7	190.9	296.5	264.6	200.1	181.0	187.6
85°	61.5	58.9	77.3	91.5	88.5	148.7	253.7	199.1	142.5	120.4	133.3
87.5°	16.1	18.1	27.3	32.3	32.9	51.0	97.7	74.0	55.6	42.1	40.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)